

AMENDMENTS TO THE CLAIMS

Claim 1. (cancelled)

Claim 2. (currently amended) A syringe for use with a cartridge containing a liquid, the cartridge having a hollow body and being closed at one end with a piercable diaphragm and being closed at a second end with a plug, said diaphragm and said plug both creating a hermetic seal with said hollow body, the syringe comprising:

a syringe body having a hollow interior, an open proximal end and an oppositely spaced open distal end; ~~and a means for receiving the cartridge.~~

a plunger slidably received within the syringe body at the proximal end;

a barrel slidably received in the hollow interior at the distal end of the syringe body, said barrel having an open end, said open end being positioned opposite a protrusion, said protrusion being adapted to pierce the diaphragm of the cartridge; and

a hollow needle coupled to the open end of the barrel; and

wherein said syringe body includes means for receiving the cartridge, said means comprising an elongated, exposed, longitudinal slot extending coaxially relative to and inwardly of the syringe body, said slot being located on the syringe body between the open proximal end and the oppositely spaced open distal end of said syringe body.

Claim 3. (previously amended)

A syringe as claimed in claim 2 further comprising an o-ring positioned on the barrel, whereby said o-ring creates a removable seal between the barrel and the syringe body.

Claim 4. (previously amended)

A syringe as claimed in claim 2 wherein the plunger further comprises a means for providing a breakaway feature intermediate the ends of said plunger.

Claim 5. (previously amended)

The syringe as claimed in claim 4 wherein the means for providing a breakaway feature includes a peripherally scored groove located intermediate the ends of said plunger.

Claim 6. (currently amended)

A syringe for use with a cartridge containing a liquid, the cartridge having a hollow body and being closed at one end with a piercable diaphragm and being closed at a second end with a plug, said diaphragm and said plug both creating a hermetic seal with said hollow body, the syringe comprising:

a syringe body having a hollow interior, an open proximal end and an oppositely spaced open distal end, and means for receiving the cartridge, said cartridge receiving means comprising an elongated, exposed, longitudinal slot extending coaxially relative to and inwardly of the syringe body, said slot being located between the open proximal end and the oppositely spaced open distal end of said syringe body;

a plunger slidably received within the syringe body at the proximal end;

a barrel slidably received in the hollow interior at the distal end of the syringe body, said barrel having an open end, said open end being positioned opposite a protrusion, said protrusion being adapted to pierce the diaphragm of the cartridge; and

a hollow needle coupled to the open end of the barrel;

means for retracting the needle inside the syringe body, said needle retracting means comprising:

a barbed member carried by the protrusion, said protrusion and said barbed member having concentric hollow interiors; and

~~and~~ wherein said barrel further comprises a concentric bore and distal aperture, said bore and aperture being aligned with the hollow interiors of the protrusion and barb; said barb, protrusion and barrel being in fluid communication so that fluid from the cartridge may flow to the needle, means for attaching the needle to the open end of the barrel; and

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a gripping feature located on the plunger, said gripping feature adapted to engage the barb, whereby such engagement occurs when the plunger is fully compressed in the syringe body.

Claim 7. (previously amended)

A syringe assembly as claimed in claim 2 wherein the syringe body further comprises a finger rest and a handle adjacent to said finger rest, said finger rest being located adjacent to the proximal end of said syringe body.

Claim 8. (previously amended)

A syringe assembly as claimed in claim 2 wherein the plunger further comprises a looped manually operated member.

Claims 9 and 10 (cancelled).

Claim 11. (currently amended)

A syringe for use with a cartridge containing a liquid, the cartridge having a hollow body and being closed at one end with a piercable diaphragm and being closed at a second end with a plug, said diaphragm and said plug both creating a hermetic seal with said hollow body, the syringe assembly comprising:

a syringe body having a hollow interior, an open proximal end and an oppositely spaced open distal end, and a means for removably receiving the cartridge, said cartridge receiving means comprising an elongated, exposed, longitudinal slot extending coaxially relative to and inwardly of the syringe body, said slot being located between the open proximal end and the oppositely spaced open distal end of said syringe body;

a plunger slidably received by the syringe body at the proximal end;

a barrel slidably received in the hollow interior at the distal end of the syringe body, said barrel comprising a hollow interior, a first open end and a second open end, said second open end comprises a protrusion adapted to pierce the diaphragm of the cartridge;

a sealing means in communication with the barrel and the syringe body;
a hollow needle coupled to the open end of the barrel;
means for retracting the needle [body] inside the syringe body, said means comprising:

a barbed member carried by the protrusion, said protrusion and said barbed member having concentric hollow interiors;

and wherein said barrel further comprises a concentric bore and distal aperture, said bore and aperture being aligned with the hollow interiors of the protrusion and barb; said barb, protrusion and barrel being in fluid communication so that fluid from the cartridge may flow to the needle, said needle being attached by a means to the open end of the barrel;

a gripping feature located on the plunger, said gripping feature adapted to gage the barb, whereby such engagement occurs when the plunger is fully compressed in the syringe body; and

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a needle coupled to the open end of the barrel ~~and~~
~~wherein the means for removably receiving the cartridge comprises a longitudinal slot located on the syringe body between the open proximal end and the oppositely spaced open distal end~~

Claims 12 – 15, inclusive (cancelled).

Claim 16. (currently amended)

A syringe for use with a cartridge containing a liquid, the cartridge having a hollow body and being closed at one end with a piercable diaphragm and being closed at a second end with a plug, said diaphragm and said plug both creating a hermetic seal with said hollow body, the syringe assembly comprising:

a syringe body having a hollow interior, an open proximal end and an oppositely spaced open distal end, and a means for removably receiving the cartridge; said cartridge receiving means comprising an elongated, exposed, longitudinal slot extending coaxially relative to and inwardly of the syringe body, said slot being located between the open proximal end and the oppositely spaced open distal end of said syringe body.

a plunger slidably received by the syringe body at the proximal end;
a barrel slidably received in the hollow interior at the distal end of the syringe body, said barrel comprising a hollow interior, a first open end and a second open end, said second open end comprising a protrusion adapted to pierce the diaphragm of the cartridge;

a sealing means in communication with the barrel and the syringe body;

a needle coupled to the open end of the barrel;

means for retracting the needle inside the syringe body, said means comprising:

a barbed member carried by the protrusion, said protrusion and said barbed member having concentric hollow interiors;

and wherein said barrel further comprises a concentric bore and distal aperture, said bore and aperture being aligned with the hollow interiors of the protrusion and barb; said barb, protrusion and barrel being in fluid communication so that fluid from the cartridge may flow to the needle, said needle being attached by a means to the open end of the barrel; and

a gripping feature located on the plunger, said gripping feature adapted to engage the barb, whereby such engagement occurs when the plunger is fully compressed in the syringe body.

Claim 17. (previously amended)

A syringe assembly as claimed in claim 16 wherein the syringe body further comprises a finger rest and a handle adjacent to said finger rest, said finger rest being adjacent to the proximal end.

Claim 18. (previously amended)

A syringe assembly as claimed in claim 16 wherein the plunger further comprises a looped member.

Claim 19. (cancelled)

Claim 20. (original)

A syringe for use with a cartridge containing a liquid, the cartridge having a hollow body and being closed at one end with a piercable diaphragm and being closed at a second end with a plug, said diaphragm and said plug both creating a hermetic seal with said hollow body, the syringe assembly comprising:

a syringe body comprising a generally cylindrical tube having a hollow interior, an open proximal end and an oppositely spaced open distal end, and a longitudinal opening;

a plunger slidably received by the syringe body at the proximal end;

a barrel slidably received in the hollow interior at the distal end of the syringe body, said barrel comprising a hollow interior, an open end and an oppositely positioned protrusion, said protrusion being adapted to pierce the diaphragm of the cartridge;

a sealing means in communication with the barrel and the syringe body;

a needle coupled to the open end of the barrel; and

a means for retracting the needle inside the body, said means comprising:

a barbed member carried by the protrusion, said protrusion and said barbed member having concentric hollow interiors;

and wherein said barrel further comprises a concentric bore and distal aperture, said bore and aperture being aligned with the hollow interiors of the protrusion and barb; said barb, protrusion and barrel being in fluid communication so that fluid from the cartridge may flow to the needle, said needle being attached by a means to a distal end of the barrel;

a gripping feature located on the plunger, said gripping feature adapted to engage the barb, whereby such engagement occurs when the plunger is fully compressed in the syringe body.

Claim 21. (original)

A syringe assembly as claimed in claim 20 wherein the syringe body further comprises a finger rest and a handle adjacent to said finger rest, said finger rest being adjacent to the proximal end.

Claim 22. (original)

A syringe assembly as claimed in claim 20 wherein the plunger further comprises a looped member.

Claim 23. (cancelled)

Claim 24. (original)

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A syringe as claimed in claim 20 wherein the plunger further comprises a means for providing a breakaway feature.

Claim 25. (original)

The syringe assembly as claimed in claim 24 wherein the means for providing a breakaway feature includes a line of weakness at a predetermined location on the plunger.

Claim 26. (cancelled)
